



## Research Project

### Pill Protect: health-economic performance characteristics and implications for health care funding

#### Third-party funded project

**Project title** Pill Protect: health-economic performance characteristics and implications for health care funding

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**Organisation / Research unit**

Departement Public Health / Pharmazeutische Medizin (Szucs)

**Department**

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**Status** Completed

**Economic evaluation of a novel genetic screening test for risk of venous thromboembolism compared with standard of care in women considering combined hormonal contraception in Switzerland**

#### Aim

The aim of this study was to assess the cost effectiveness of the Pill Protect (PP) genetic screening test for venous thromboembolism (VTE) risk compared with Standard of Care (SoC), for women considering combined hormonal contraceptives (CHCs) in Switzerland.

#### Methods

A two part microsimulation model was developed to estimate VTE events, costs and quality adjusted life years (QALYs) associated with the PP and SoC strategies. In the first portion of the model, a cohort of 1 million Swiss first-time seekers of a CHC were simulated. It was determined whether each woman would receive a CHC or non-CHC by using prescribing patterns elicited from a modified-Delphi study. These results formed the basis of the SoC strategy. For the PP strategy, a PP test was included and the results considered in addition to SoC practice. Each woman then entered a Markov model that captured morbidity and mortality over a lifetime. The risk of having a VTE was derived from the risk algorithm that underpins the PP test. The remaining model inputs relating to population characteristics, costs, health resource use, mortality and utilities were derived from published studies or national sources. The model was validated and calibrated to align with population-based studies. Extensive uncertainty analyses were conducted. ä

#### Results

From a Swiss health system perspective, the PP strategy in comparison with the SoC strategy generated an additional CHF 231, and gained 0.003 QALYs per woman, leading to an incremental cost-effectiveness ratio (ICER) of CHF 76,610 per QALY gained. Assuming a threshold of CHF 100,000 per QALY gained, the probability of cost-effectiveness exceeded 99%. Our results were generally robust to variations in the parameter values.

#### Conclusions

The PP test may be cost effective in Switzerland for screening women seeking CHCs for their risk of VTE based on the current evidence.

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**Keywords** Deep-vein thrombosis, oral contraception, risk score, cost effectiveness, health economics, Switzerland

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Private Sector / Industry

**Add publication**

**Published results**

4487596, Ademi, Zanfina; Sutherland, C. Simone; Van Stiphout, Joris; Michaud, Joëlle; Tanackovic, Goranka; Schwenkglenks, Matthias, A systematic review of cost-effectiveness analysis of screening interventions for assessing the risk of venous thromboembolism in women considering combined oral contraceptives, 1573-742X, Journal of thrombosis and thrombolysis, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

4525705, Sutherland, C. Simone; Ademi, Zanfina; Michaud, Joëlle; Schur, Nadine; Lingg, Myriam; Bhadhuri, Arjun; Pache, Thierry D.; Bitzer, Johannes; Suchon, Pierre; Albert, Valerie; Hersberger, Kurt E.; Tanackovic, Goranka; Schwenkglenks, Matthias, Economic evaluation of a novel genetic screening test for risk of venous thromboembolism compared with standard of care in women considering combined hormonal contraception in Switzerland, 2044-6055, BMJ open, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

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